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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,701	12/22/2000	James Wilson	A0312/7386/MXS	4553

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EXAMINER

JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/748,701	Applicant(s) WILSON ET AL.	
	Examiner Alexander Jamal	Art Unit 2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4, 6-13, 15, 19-22, 24, 25, 27, 28 and 30-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 14, 16-18, 23, 26, 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Based upon the submitted amendment (8-9-2004), examiner notes that claims 2,4,6-13,15,19-22,24,25,27,28 and 30-35 have been cancelled.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1** rejected under 35 U.S.C. 102(e) as being anticipated by O'Toole et al. (5889856).

As per **claim 1**, O'Toole discloses a device (ABSTRACT, Fig. 6) to process signals from a telephone line supporting multiple protocols comprising a converter circuit (A/D 44) and a digital filter circuit 50 (Col 7 lines 1-53) to separate the two different signals. The digital filter circuitry comprises sample rate converter 68 (Fig. 7) that is associated with a variable sampling rate (factor of 125) (Col 9 lines 5-15). The A/D converter 44 inherently comprises a fixed rate clock providing a fixed rate clock signal

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for the purpose of giving the A/D converter a frame of reference (trigger) to synchronize the converter with the rest of the communications system.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 3,5** rejected under 35 U.S.C. 103(a) as being unpatentable over O'Toole et al. (5889856) as applied to claim 1 above, and further in view of Gong et al. (6057793).

As per **claim 3**, O'Toole discloses applicant's claim 1, a digital splitter comprising a decimation filter stage 60 (Fig. 7), and an oversampled output from an A/D converter (Col 8 lines 35-50). However, O'Toole does not specify that the two decimation filters are variable ratio decimation filters.

Gong discloses an A/D converter system comprising oversampling and decimation functions (Col 3 lines 20-30). Gong teaches the use of variable ratio decimators and interpolators cascaded in order to process incoming sample rates that are not whole number multiples of the sampling frequency (Col 4 lines 35-50) (Col 5 lines 9-20). It would have been obvious to one of ordinary skill in the art at the time of this application to implement Gong's variable ratio decimator and interpolator filters in

O'Toole's decimation filter stage 60 (O'TOOLE: Fig. 7) for the advantage of allowing the system to process a wider range of input sampling frequencies.

As per **claim 5**, O'Toole discloses two decimation filters. The first filter comprises decimation stage 60 and high pass stage 62 (Fig. 7) that would comprise (in view of Gong) a first variable ratio decimation filter associated with a DSL protocol. The second filter comprises decimation stage 60, band-pass stage 66, and rate conversion stage 68 (Fig. 7) that would comprise (in view of Gong) a second variable ratio decimation filter associated with a POTS protocol.

6. **Claims 14,18,16,17,23,26,29** rejected under 35 U.S.C. 103(a) as being unpatentable over O'Toole et al. (5889856) as applied to claim 1 above, and further in view of Gong et al. (6057793).

As per **claim 14**, O'Toole discloses a digital splitter comprising a decimation filter stage 60 (Fig. 7) and an oversampled output from an A/D converter. The system comprises a first filter comprising decimation stage 60 and high pass stage 62 (Fig. 7) associated with a DSL protocol. The second filter comprises decimation filter stage 60, band-pass stage 66, and rate conversion stage 68 (Fig. 7) associated with a POTS protocol. The system further comprises a D/A converter that outputs a combined analog

signal (Fig. 8, output from mixer 80). However, O'Toole does not specify that the two decimation filters are variable ratio decimation filters.

Gong discloses an A/D converter system comprising oversampling and decimation functions (Col 3 lines 20-30). Gong teaches the use of variable ratio decimators and interpolators cascaded in order to process incoming sample rates that are not whole number multiples of the sampling frequency (Col 4 lines 35-50) (Col 5 lines 9-20). It would have been obvious to one of ordinary skill in the art at the time of this application to implement Gong's variable ratio decimator and interpolator filters in O'Toole's decimation filter stage 60 (O'TOOLE: Fig. 7) (as such the variable ratio filtering could be implemented on both the xDSL path and the POTS path) for the advantage of allowing the system to process a larger set of input sampling frequencies.

As per **claim 18**, claim rejected for same reasons as claim 14 rejection.

As per **claims 16,17,23**, claims rejected for same reasons as claim 14 rejection.

As per **claim 26**, O'Toole discloses the separate bandwidths of the signaling protocols used in the device (Fig. 1).

As per **claim 29**, claim rejected for same reasons as claim 14 rejection. As per O'Toole in view of Gong's teachings, each signaling path (ADSL and POTS) comprises a variable ratio decimation/interpolation stage in order to satisfy the particular sampling rates being transmitted/received.

Response to Arguments

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7. Applicant's arguments with respect to claims 1,3,5,14,16-18,23,26,29 have been considered but are moot in view of the new ground(s) of rejection.
8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ
November 4, 2004


CURTIS KUNTZ
SENIOR PATENT EXAMINER
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